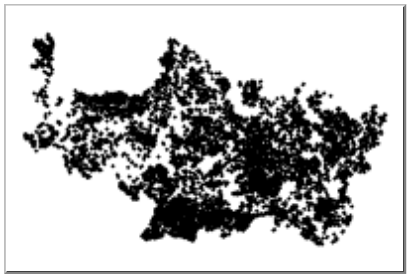
NHD High-Resolution Hydrographic Points for the Navajo Nation



Data format: Shapefile

File or table name: NN_Points_NHDH

Coordinate system: Geographic

Theme keywords: FWHYDROGRAPHY, Hydrography, Stream / River, Lake / Pond, Canal / Ditch, Reservoir, Spring / Seep, Swamp / Marsh, Artificial Path, Reach Code

Abstract: This point shapefile compiles The National Hydrography Dataset (NHD) High-Resolution (1:24,000 scale) hydrographic points for the Navajo Nation from the NHD Hi-Res Points. NHD Points include the following feature types: Gaging Station, Gate, Lock Chamber, Rapids, Reservoir, Rock, Sink/Rise, Spring/Seep, Water Intake/Outflow, Waterfall, Well. The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation's surface water drainage system. NHD data was originally developed at 1:100,000-scale and exists at that scale for the whole country. This high-resolution NHD, generally developed at 1:24,000/1:12,000 scale, adds detail to the original 1:100,000-scale NHD. (Data for Alaska, Puerto Rico and the Virgin Islands was developed at high-resolution, not 1:100,000 scale.) Local resolution NHD is being developed where partners and data exist. The NHD contains reach codes for networked features, flow direction, names, and centerline representations for areal water bodies. Reaches are also defined on waterbodies and the approximate shorelines of the Great Lakes, the Atlantic and Pacific Oceans and the Gulf of Mexico. The NHD also incorporates the National Spatial Data Infrastructure framework criteria established by the Federal Geographic Data Committee.

FGDC and ESRI Metadata:

Metadata elements shown with blue text are defined in the Federal Geographic Data Committee's (FGDC) *Content Standard for Digital Geospatial Metadata (CSDGM)*. Elements shown with green text are defined in the *ESRI Profile of the CSDGM.* Elements shown with a green asterisk (*) will be automatically updated by ArcCatalog. ArcCatalog adds hints indicating which FGDC elements are mandatory; these are shown with gray text.

Identification Information:

Citation:

Citation information:

Originators: U.S. Geological Survey in cooperation with U.S. Environmental Protection Agency, USDA Forest Service, and other Federal, State and local partners (see dataset specific metadata under Data_Set_Credit for details).

Title:

NHD High-Resolution Hydrographic Points for the Navajo Nation

*__File or table name:__ NN_Points_NHDH

Publication date: See dataset specific metadata.
Publication time: Unknown
***Geospatial data presentation form:** vector digital data

Publication information:
Publication place: Reston, Virginia
Publisher: U.S. Geological Survey

Online linkage:
\\Terra_dc\Navajo\NAUM_NN_Summary\Work\Water\AUM_Drainages\NHD_HiRes\NHDH1302.mdb

Description:

Abstract:

This point shapefile compiles The National Hydrography Dataset (NHD) High-Resolution (1:24,000 scale) hydrographic points for the Navajo Nation from the NHD Hi-Res Points. NHD Points include the following feature types: Gaging Station, Gate, Lock Chamber, Rapids, Reservoir, Rock, Sink/Rise, Spring/Seep, Water Intake/Outflow, Waterfall, Well.

The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation's surface water drainage system. NHD data was originally developed at 1:100,000-scale and exists at that scale for the whole country. This high-resolution NHD, generally developed at 1:24,000/1:12,000 scale, adds detail to the original 1:100,000-scale NHD. (Data for Alaska, Puerto Rico and the Virgin Islands was developed at high-resolution, not 1:100,000 scale.) Local resolution NHD is being developed where partners and data exist. The NHD contains reach codes for networked features, flow direction, names, and centerline representations for areal water bodies. Reaches are also defined on waterbodies and the approximate shorelines of the Great Lakes, the Atlantic and Pacific Oceans and the Gulf of Mexico. The NHD also incorporates the National Spatial Data Infrastructure framework criteria established by the Federal Geographic Data Committee.

Purpose:

The NHD is a national framework for assigning reach addresses to water-related entities, such as industrial discharges, drinking water supplies, fish habitat areas, wild and scenic rivers. Reach addresses establish the locations of these entities relative to one another within the NHD surface water drainage network, much like addresses on streets. Once linked to the NHD by their reach addresses, the upstream/downstream relationships of these water-related entities--and any associated information about them--can be analyzed using software tools ranging from spreadsheets to geographic information systems (GIS). GIS can also be used to combine NHD-based network analysis with other data layers, such as soils, land use and population, to help understand and display their respective effects upon one another. Furthermore, because the NHD provides a nationally consistent framework for addressing and analysis, water-related information linked to reach addresses by one organization (national, state, local) can be shared with other organizations and easily integrated into many different types of applications to the benefit of all.

***Language of dataset:** en

Time period of content:

Time period information:

Single date/time:

Calendar date: REQUIRED: The year (and optionally month, or month and day) for which the data set corresponds to the ground.

Currentness reference:

See dataset specific metadata.

Status:

Progress: In work
Maintenance and update frequency: Irregular

Spatial domain:

Bounding coordinates:

***West bounding coordinate:** -115.690907
***East bounding coordinate:** -105.223017
***North bounding coordinate:** 39.276625
***South bounding coordinate:** 33.182571

Local bounding coordinates:

***Left bounding coordinate:** -115.690907
***Right bounding coordinate:** -105.223017
***Top bounding coordinate:** 39.276625
***Bottom bounding coordinate:** 33.182571

***Minimum altitude:** 0.000000
***Maximum altitude:** 0.000000

Keywords:

Theme:

Theme keywords: FWHYDROGRAPHY, Hydrography, Stream / River, Lake / Pond, Canal / Ditch, Reservoir, Spring / Seep, Swamp / Marsh, Artificial Path, Reach Code
Theme keyword thesaurus: U.S. Department of the Interior, U.S. Geological Survey, 1999, Standards for National Hydrography Dataset (http://mapping.usgs.gov/standards/)

Place:

Place keywords: US
Place keyword thesaurus: U.S. Department of Commerce, 1977, Countries, dependencies, areas of special sovereignty, and their principal administrative divisions (Federal Information Processing Standards 10-3): Washington, D.C., National Institute of Standards and Technology.

Access constraints: None
Use constraints:

None. Acknowledgment of the originating agencies would be appreciated in products derived from these data.

Point of contact:

Contact information:

Contact organization primary:

Contact organization: Earth Science Information Center, U.S. Geological Survey

Contact address:

Address type: mailing address
Address:
507 National Center
City: Reston
State or province: VA
Postal code: 20192
Country: USA

Contact voice telephone: 1 888 ASK USGS
Contact voice telephone: 1 888 275 8747

Contact electronic mail address: ask@usgs.gov

Hours of service: 0800-1600 Eastern Time
Contact instructions:

In addition to the address above there are other ESIC offices throughout the country. A full list of these offices is at URL: http://mapping.usgs.gov/esic/esic_index.html

Data set credit:

See dataset specific metadata.

*Native dataset format: Shapefile
*Native data set environment:
Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 9.1.0.780

Back to Top

Data Quality Information:

Attribute accuracy:

Attribute accuracy report:

Statements of attribute accuracy are based on accuracy statements made for U.S. Geological Survey Digital Line Graph (DLG) data, which is estimated to be 98.5 percent. One or more of the following methods were used to test attribute accuracy: manual comparison of the source with hardcopy plots; symbolized display of the DLG on an interactive computer graphic system; selected attributes that could not be visually verified on plots or on screen were interactively queried and verified on screen. In addition, software validated feature types and characteristics against a master set of types and characteristics, checked that combinations of types and characteristics were valid, and that types and characteristics were valid for the delineation of the feature. Feature types, characteristics, and other attributes conform to the Standards for National Hydrography Dataset (USGS, 1999) as of the date they were loaded into the database. All names were validated against a current extract from the Geographic Names Information System (GNIS). The entry and identifier for the names match those in the GNIS. The association of each name to reaches has been interactively checked, however, operator error could in some cases apply a name to a wrong reach.
This statement is generally true for the most common sources of NHD data. Other sources and methods may have been used to create or update NHD data. In some cases, additional information may be found in the NHDMetadata table.

Logical consistency report:

Points, nodes, lines, and areas conform to topological rules. Lines intersect only at nodes, and all nodes anchor the ends of lines. Lines do not overshoot or undershoot other lines where they are supposed to meet. There are no duplicate lines. Lines bound areas and lines identify the areas to the left and right of the lines. Gaps and overlaps among areas do not exist. All areas close.

Completeness report:

The completeness of the data reflects the content of the sources, which most often are the published USGS topographic quadrangle and/or the USDA Forest Service Primary Base Series (PBS) map. The USGS topographic quadrangle is usually supplemented by Digital Orthophoto Quadrangles (DOQs). Features found on the ground may have been eliminated or generalized on the source map because of scale and legibility constraints. In general, streams longer than one mile (approximately 1.6 kilometers) were collected. Most streams that flow from a lake were collected regardless of their length. Only definite channels were collected so not all swamp/marsh features have stream/rivers delineated through them. Lake/ponds having an area greater than 6 acres were collected. Note, however, that these general rules were applied unevenly among maps during compilation. Reaches codes are defined on all features of type stream/river, canal/ditch, artificial path, coastline, and connector. Waterbody reach codes are defined on all lake/pond and most reservoir features. Names were applied from the GNIS database. Detailed capture conditions are provided for every feature type in the Standards for National Hydrography Dataset available online through http://mapping.usgs.gov/standards/.
This statement is generally true for the most common sources of NHD data. Other sources and methods may have been used to create or update NHD data. In some cases, additional information may be found in the NHDMetadata table.

Positional accuracy:

Horizontal positional accuracy:

Horizontal positional accuracy report:

Statements of horizontal positional accuracy are based on accuracy statements made for U.S. Geological Survey topographic quadrangle maps. These maps were compiled to meet National Map Accuracy Standards. For horizontal accuracy, this standard is met if at least 90 percent of points tested are within 0.02 inch (at map scale) of the true position. Additional offsets to positions may have been introduced where feature density is high to improve the

legibility of map symbols. In addition, the digitizing of maps is estimated to contain a horizontal positional error of less than or equal to 0.003 inch standard error (at map scale) in the two component directions relative to the source maps. Visual comparison between the map graphic (including digital scans of the graphic) and plots or digital displays of points, lines, and areas, is used as control to assess the positional accuracy of digital data. Digital map elements along the adjoining edges of data sets are aligned if they are within a 0.02 inch tolerance (at map scale). Features with like dimensionality (for example, features that all are delineated with lines), with or without like characteristics, that are within the tolerance are aligned by moving the features equally to a common point. Features outside the tolerance are not moved; instead, a feature of type connector is added to join the features.
This statement is generally true for the most common sources of NHD data. Other sources and methods may have been used to create or update NHD data. In some cases, additional information may be found in the NHDMetadata table.

Vertical positional accuracy:

Vertical positional accuracy report:

Statements of vertical positional accuracy for elevation of water surfaces are based on accuracy statements made for U.S. Geological Survey topographic quadrangle maps. These maps were compiled to meet National Map Accuracy Standards. For vertical accuracy, this standard is met if at least 90 percent of well-defined points tested are within one-half contour interval of the correct value. Elevations of water surface printed on the published map meet this standard; the contour intervals of the maps vary. These elevations were transcribed into the digital data; the accuracy of this transcription was checked by visual comparison between the data and the map.
This statement is generally true for the most common sources of NHD data. Other sources and methods may have been used to create or update NHD data. In some cases, additional information may be found in the NHDMetadata table.

Lineage:

Process step:

Process description:

The processes used to create and maintain high-resolution NHD data can be found in the table called "NHDMetadata". Because NHD data can be downloaded using several user-defined areas, the process descriptions can vary for each download. The NHDMetadata table contains a list of all the process descriptions that apply to a particular download. These process descriptions are linked using the DuuID to the NHDFeatureToMetadata table which contains the com_ids of all the features within the download. In addition, another table, the NHDSourceCitation, can also be linked through the DuuID to determine the sources used to create or update NHD data.

Process date: Unknown

Process step:

Process description:

Converted NHD data to geodatabase format. Conversion included assignment of FCodes, FDate, and Resolution attribute values; assignment of reach codes to associated features; replacement of branched reaches with linear reaches; merge of area features with identical classification that adjoin or overlap; split of large area features that exceed 100/25 sq. km. (depending on feature type) at subbasin boundaries; reduction of feature classes, feature types, and attribution to simplify data; merge of network flow features at vertical relationship locations; conversion of artificial paths along coastline to coastline feature type; addition of M coordinates and values to network flow features; addition of Z coordinates, but not values, to all feature geometry; addition of value added attributes; switch to primary flow navigation by network features (NHDFlowline, route.drain) in place of reach features; and elimination of metadata boundaries.

Process date: 2004

Process step:

Process description:

Six HUC 4 Subregion Geodatabases were downloaded from USGS via http://nhd.usgs.gov/data.html:

1302, Rio Grande-Elephant Butte
1407, Upper Colorado-Dirty Devil
1408, San Juan
1501, Lower Colorado-Lake Mead
1502, Little Colorado
1506, Salt

The NHDPoint features were exported to shapefiles and merged into a single shapefile. Using the FType and FCode attributes the following attributes were added:

FType_Name
FCode_Name

to provide a text description for FType and FCode.

Process software and version: ESRI ArcGIS 9.1
Process date: July 2007

Process contact:
Contact information:
Contact organization primary:
Contact organization: TerraSpectra Geomatics

Contact address:
Address type: mailing and physical address
Address:
2700 E Sunset Rd, Ste A-10
City: Las Vegas
State or province: NV
Postal code: 89120
Country: USA

Contact voice telephone: 702-795-8254

Back to Top

Spatial Data Organization Information:

*__Direct spatial reference method:__ Vector

Point and vector object information:
SDTS terms description:
*__Name:__ NN_Points_NHDH
*__SDTS point and vector object type:__ Entity point
*__Point and vector object count:__ 12831

ESRI terms description:
*__Name:__ NN_Points_NHDH
*__ESRI feature type:__ Simple
*__ESRI feature geometry:__ Point
*__ESRI topology:__ FALSE
*__ESRI feature count:__ 12831
*__Spatial index:__ TRUE
*__Linear referencing:__ TRUE

Back to Top

Spatial Reference Information:

Horizontal coordinate system definition:
Coordinate system name:
*__Geographic coordinate system name:__ GCS_North_American_1983

Geographic:
*__Latitude resolution:__ 0.000000
*__Longitude resolution:__ 0.000000
*__Geographic coordinate units:__ Decimal degrees

Geodetic model:
*__Horizontal datum name:__ North American Datum of 1983
*__Ellipsoid name:__ Geodetic Reference System 80
*__Semi-major axis:__ 6378137.000000
*__Denominator of flattening ratio:__ 298.257222

Vertical coordinate system definition:
Altitude system definition:
__Altitude datum name:__ National Geodetic Vertical Datum of 1929
*__Altitude resolution:__ 0.000001
__Altitude distance units:__ meters
*__Altitude encoding method:__ Explicit elevation coordinate included with horizontal coordinates

Back to Top

Entity and Attribute Information:

Detailed description:
*__Name:__ NN_Points_NHDH

Entity type:
*__Entity type label:__ NN_Points_NHDH
*__Entity type type:__ Feature Class
*__Entity type count:__ 12831

Attribute:
__Attribute label:__ FCode

Attribute:
__Attribute label:__ Shape
__Attribute definition:__
Feature geometry.
__Attribute definition source:__
ESRI

__Attribute domain values:__
__Unrepresentable domain:__
Coordinates defining the features.

Attribute:
__Attribute label:__ ComID

*__Attribute type:__ Number
*__Attribute width:__ 9

Attribute:
__Attribute label:__ FDate

*__Attribute type:__ Date

*Attribute width: 8

Attribute:
Attribute label: Resolution

*Attribute type: Number
*Attribute width: 9

Attribute:
Attribute label: GNIS_ID

*Attribute type: String
*Attribute width: 10

Attribute:
Attribute label: GNIS_Name

*Attribute type: String
*Attribute width: 65

Attribute:
Attribute label: ReachCode

*Attribute type: String
*Attribute width: 14

Attribute:
Attribute label: FType

*Attribute type: Number
*Attribute width: 9

Attribute:
*Attribute label: FID
*Attribute alias: FID
*Attribute definition:
Internal feature number.
*Attribute definition source:
ESRI

*Attribute type: Number
*Attribute width: 9

Attribute domain values:
*Unrepresentable domain:
Sequential unique whole numbers that are automatically generated.

Attribute:
*Attribute label: FType_Name
*Attribute alias: FType_Name

*Attribute type: String
*Attribute width: 25

Attribute:
*Attribute label: FCode_Name
*Attribute alias: FCode_Name

*Attribute type: String
*Attribute width: 125

Detailed description:

Entity type:

Entity type label: NHDPointToMeta

Attribute:

Attribute type:

Attribute:

Attribute width:

Attribute:

Attribute type:

Attribute:

***Attribute width:** 8

Attribute:

***Attribute type:** Number
***Attribute width:** 9

Attribute:

***Attribute type:** String
***Attribute width:** 10

Attribute:

***Attribute type:** String
***Attribute width:** 65

Attribute:

***Attribute type:** String
***Attribute width:** 14

Attribute:

***Attribute type:** Number
***Attribute width:** 9

Overview description:

Dataset overview:

There are 12,831 points.

Entity and attribute overview:

The National Hydrography Dataset is a comprehensive set of digital spatial data that encodes information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities. The information encoded about features includes a feature date, classification by type, other characteristics, a unique common identifier, the feature length or area, and (rarely) elevation of the surface of water pools and a description of the stage of the elevation. For reaches, encoded information includes a reach code. Names and their identifiers in the Geographic Names Information System, are assigned to most feature types. The direction of flow is encoded for networked features. The data also contains relations that encode metadata, and information that supports the exchange of future updates and improvements to the data. The names and definitions of all feature types, characteristics, and values are in the Standards for National Hydrography Dataset: Reston, Virginia, U.S. Geological Survey, 1999. The document is available online through http://mapping.usgs.gov/standards/.

There are 10 thematic attributes. The NHD data are described in the following Acrobat PDF files included in the DB/Water directory:

chp1_data_users_guide.pdf
NHDinGEO_FCodes_by_layer.pdf

Entity and attribute detail citation:

The names and definitions of all feature types, characteristics, and values are in U.S. Geological Survey, 1999, Standards for National Hydrography Dataset High Resolution: Reston, Virginia, U.S. Geological Survey. The document is available online through http://mapping.usgs.gov/standards/. Information about tables and fields in the data are available from the user documentation for the National Hydrography Dataset at http://nhd.usgs.gov. The National Map - Hydrography Fact Sheet is also available at: http://erg.usgs.gov/isb/pubs/factsheets/fs06002.html.

Back to Top

Distribution Information:

Distributor:
Contact information:
Contact organization primary:
Contact organization: Earth Science Information Center, U.S. Geological Survey

Contact address:
Address type: mailing address
Address:
507 National Center
City: Reston
State or province: VA
Postal code: 20192
Country: USA

Contact voice telephone: 1 888 ASK USGS
Contact voice telephone: 1 888 275 8747

Contact electronic mail address: ask@usgs.gov

Hours of service: 0800-1600 Eastern Time
Contact instructions:
In addition to the address above there are other ESIC offices throughout the country. A full list of these offices is at URL: http://mapping.usgs.gov/esic/esic_index.html

Resource description: Downloadable Data

Standard order process:
Digital form:
Digital transfer information:
Format name: ArcGIS Geodatabase
Format version number: 8.3
File decompression technique: tar and uncompress
***Transfer size:** 0.539
***Dataset size:** 0.539

Back to Top

Metadata Reference Information:

***Metadata date:** 20070804

***Language of metadata:** en

Metadata contact:
Contact information:
Contact organization primary:

Contact person: REQUIRED: The person responsible for the metadata information.
Contact organization: Earth Science Information Center, U.S. Geological Survey

Contact address:
Address type: mailing address
Address:
507 National Center
City: Reston
State or province: VA
Postal code: 20192
Country: USA

Contact voice telephone: 1 888 ASK USGS
Contact voice telephone: 1 888 275 8747

Contact electronic mail address: nhd@usgs.gov

Hours of service: 0800-1600 Eastern Time
Contact instructions:
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***Metadata standard name:** FGDC Content Standards for Digital Geospatial Metadata
***Metadata standard version:** FGDC-STD-001-1998
***Metadata time convention:** local time

Metadata extensions:
Online linkage: http://www.esri.com/metadata/esriprof80.html
Profile name: ESRI Metadata Profile

Metadata extensions:
Online linkage: http://www.esri.com/metadata/esriprof80.html
Profile name: ESRI Metadata Profile

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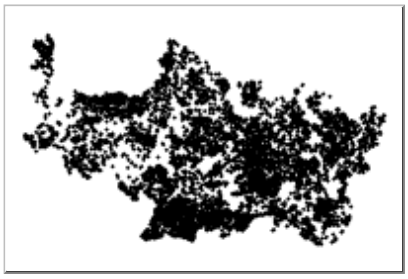
***Profile name:** ESRI Metadata Profile

Back to Top

Binary Enclosures:

Thumbnail:
Enclosure type: Picture



Back to Top